REMARKS/ARGUMENTS

Claims 1-20 were previously pending in the application. Claims 2-3, 5, 11-12, and 14 are canceled, claims 1, 4, 6, 8, 10, 13, 15, and 17 are amended, and new claims 21-26 are added herein. Assuming the entry of this amendment, claims 1, 4, 6-10, 13, and 15-26 are now pending in the application. The Applicant hereby requests further examination and reconsideration of the application in view of the foregoing amendments and these remarks.

Claim Rejections and Allowable Subject Matter
In paragraph 5 of the office action, the Examiner rejected claims 1 and 10 under 35 U.S.C. 102(b) as being anticipated by Austin. In paragraph 6, the Examiner rejected claims 2-4, 11-13, and 19-20 under 35 U.S.C. 103(a) as being unpatentable over Austin in view of Miyao. In paragraph 7, the Examiner objected to claims 5-9 and 14-18, but indicated that those claims would be allowable if rewritten in independent form. For the following reasons, the Applicant submits that all of the pending claims are allowable over the cited references.

Claims 1 and 10
Claim 1 has been amended to include the features of previously pending claim 5. As such, currently amended claim 1 is equivalent to previously pending claim 5 rewritten in independent form. Since the Examiner stated that previously pending claim 5 would be allowable if rewritten in independent form, the Applicant submits that currently amended claim 1 is allowable. Since claims 4, 6-9, and 20 depend variously from claim 1, it is further submitted that those claims are also allowable.

Claim 10 has been amended to include the features of previously pending claim 14. As such, currently amended claim 10 is equivalent to previously pending claim 14 rewritten in independent form. Since the Examiner stated that previously pending claim 14 would be allowable if rewritten in independent form, the Applicant submits that currently amended claim 10 is allowable. Since claims 13 and 15-19 depend variously from claim 10, it is further submitted that those claims are also allowable.

New Claims 21 and 24
Support for new claims 21-26 is found as follows:

Claim	Support
21	Previously pending claims 1 and 2
22	Previously pending claim 3
23	Previously pending claim 4
24	Previously pending claim 10 and 11
25	Previously pending claim 12
26	Previously pending claim 13

In particular, new claim 21 is equivalent to previously pending claim 2 rewritten in independent form. Similarly, new claim 24 is equivalent to previously pending claim 11 rewritten in independent form.

Fig. 1 shows an exemplary embodiment of the invention of previously pending claim 2 and now new claim 21, where:

o   Set A of Fig. 1 is an example of the first set of one or more path plans in claim 21 that satisfy the one or more cost criteria, where Set A is calculated in step 108 of Fig. 1;

o   Set B of Fig. 1 is an example of the second set of one or more path plans in claim 21 that satisfy the failure-related cross-connection criterion, where Set B is calculated in step 112 of Fig. 1;

o   Step 114 of Fig. 1 is an example of the step in claim 21 of determining whether the first and second sets have any path plans in common; and

o   The loop containing steps 118 and 120 of Fig. 1 is an example of the step in claim 21 of relaxing the one or more cost criteria and recalculating the first set until the first and second sets have at least one path plan in common.

In rejecting previously pending (now canceled) claim 2, the Examiner admitted that Austin fails to disclose each of the four steps explicitly recited in previously pending claim 2. Instead, the Examiner argued that Miyao teaches each of these four steps citing:

o   Page 1190, 2nd column, lines 2-5 and 15-25; and Equation (1) on page 1193 as disclosing the step of "calculating a first set of one or more path plans that satisfy the one or more cost criteria";

o   Section C, last paragraph; page 1193, 2nd column, lines 12-30; Section III, first paragraph; and Equation (8) on page 1194 as disclosing the step of "calculating a second set of one or more path plans that satisfy the failure-related cross-connection criterion";

o   Equation (4) on page 1194 as disclosing the step of "determining whether the first and second sets have any path plans in common"; and

o   Page 1193, 2nd column, lines 49-56; Equation (4); and page 1198, 1st column, lines 1-7 as disclosing the step of "if not, then, until the first and second sets have at least one path plan in common, relaxing the one or more cost criteria and recalculating the first set."

For the following reasons, the Applicant submits that the Examiner mischaracterized the teachings in Miyao in rejecting previously pending claim 2.

Miyao teaches a method for determining working paths and their corresponding restoration paths in optical transport networks. See, e.g., page 1190, Abstract, lines 6-9. The method involves the definition and solution of an integer programming-based design problem. One such design problem is defined in Equations (4)-(11) on page 1194, 1st column, where Equation (4) represents the cost function that is minimized by solving the design problem using integer programming. As explicitly expressed in Equation (4) and as defined on page 1193, 2nd column, that cost function is a function of the following parameters:

o   The span length A_l of span l;

o   The number d_l of fibers required in span l;

o   The cross-connection to transmission cost-coefficient ratio γ; and

o   The number e_n of optical cross-connections (OXC's) required at node n.

Alternative design problems are discussed in Section III-B beginning on page 1194 at the bottom of the 1st column and continuing through Section III-C on page 1194, 2nd column, to page 1195, 1st column. Significantly, however, none of these alternative design problems changes the cost function of Equation (4).

Significantly, in Miyao, two different sets of path plans are not calculated, where a determination is then made as to whether the two different sets of path plans have any path plans in common. Rather, in Miyao, the solution of the design problem is a single path plan that minimizes the cost function of Equation (4).

As described above, the Examiner cited Equation (4) as teaching the step of determining whether first and second sets have any path plans in common. First of all, Miyao's technique does not even calculate first and second sets of path plans, let alone determine whether such first and second sets have any path plans in common. Furthermore, Equation (4) represents a single cost function used to calculate a single path plan. It does not represent the comparison of two different sets of path plans.

This provides just one reason why the Examiner's characterization of Miyao is improper. Other reasons include the fact that the Examiner's citations of teachings in Miyao as being related to the calculation of first and second sets of path plans also constitute mischaracterizations of the teachings of Miyao, because Miyao does not teach the calculation of two different sets of path plans. Nor does Miyao teach the relaxation of any parameters used in solving the defined design problems. The teachings in Miyao cited by the Examiner have nothing to do with the relaxation of any parameters.

In view of the foregoing, the Applicant submits that new claim 21 is allowable over the cited references. For similar reasons, the Applicant submits that new claim 24 is allowable over the cited references. Since new claims 22-23 and 25-26 depend from claims 21 and 24, it is further submitted that those claims are also allowable over the cited references.

Conclusion

For the reasons set forth above, the Applicant respectfully submits that the rejections of claims 1-20 under Sections 102(b) and 103(a) have been overcome. The Applicant submits further that new claims 21-26 patentably define over the cited references.

In view of the above remarks, the Applicant believes that the pending claims are in condition for allowance. Therefore, the Applicant believes that the entire application is now in condition for allowance, and early and favorable action is respectfully solicited.

Fees

During the pendency of this application, the Commissioner for Patents is hereby authorized to charge payment of any filing fees for presentation of extra claims under 37 CFR 1.16 and any patent application processing fees under 37 CFR 1.17 or credit any overpayment to Mendelsohn & Associates, P.C. Deposit Account No. 50-0782.

The Commissioner for Patents is hereby authorized to treat any concurrent or future reply, requiring a petition for extension of time under 37 CFR 1.136 for its timely submission, as incorporating a petition for extension of time for the appropriate length of time if not submitted with the reply.

Respectfully submitted,

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